

Cassowary. In 1862, out of six eggs deposited, which we had every reason to believe were duly impregnated, frequent copulation having taken place with the male Moork, a single young one, apparently a fine and healthy bird, was hatched on September 4th, after seven weeks' incubation by the male bird. Unfortunately, however, the young bird was destroyed by rats the night after its birth.

3. ON THE LAND-SHELLS OF SOUTH AUSTRALIA. BY GEORGE FRENCH ANGAS, CORR. MEM.

Until very recently the terrestrial Molluscan fauna of the province of South Australia was almost unknown to science, two species of *Helix*, a *Succinea*, and a *Blanfordia* constituting all the described species; and of these, both the *Helices* occur also in other parts of Australia, and the *Blanfordia* in Tasmania. The absence from the colony of collectors or persons interested in natural history, and the rarity and local distribution of the species, may account for our hitherto limited acquaintance with the subject.

The dryness of the climate during a greater portion of the year, together with the absence of underwood or luxuriant vegetation, are inimical to the development of the Pulmonifera in South Australia; whilst the rich belts of tropical forest called "brushes," that extend along the east coast of Australia between the Cordillera and the Pacific Ocean, are the abode of numerous fine species, including those large *Helices* *H. falconeri* and *H. macconnelli*, and that peculiar flattened group of which *H. cunninghami* may be regarded as the type. As these primeval belts of forest fall before the axe of the settler the larger species will probably disappear at no very distant period, or be found only in a semifossil state, like the *Pachyotis* of St. Helena. With the exception of a small *Succinea* (*S. arborea*, Ad. & Ang.), none of the South Australian Pulmonifera appear to be arboreal in their habits. The vast tracts of fertile park-like country, studded with gigantic *Eucalypti*, are as destitute of Snails as are the arid sandy regions of the Mallee scrub. The few localities throughout the colony favourable to molluscan existence are those where patches of small bushes occur amongst rocks and in deep glens and ravines of hills, which afford shelter from the sun and the hot northerly winds. Several species are also met with beneath the tufts of "salt-bush" that are scattered over the vast plains of the interior towards Lake Torrens, and in the crevices of sandstone rocks, and under stones and decayed logs.

During a residence of three years in South Australia my researches were rewarded by the discovery of twelve new species of *Helix*, two of *Bulimus*, a *Succinea*, and a *Vertigo*, many of which have been lately described by Dr. Pfeiffer, &c., either in these 'Proceedings' or in the French 'Journal de Conchyliologie.'

Subjoined is a list of all the species of South Australian Pulmonifera that have been described, to which are added descriptions of several other species by Arthur Adams and myself.

1. HELIX (XANTHOMELAN) PERINFLATA, Pfr.

An interesting species belonging to a North Australian group, of which *H. pachystyla* is the type. The single specimen in my collection was obtained at the McDonnell Ranges, in the far north of the colony, by my friend Mr. Waterhouse, who accompanied Stuart's expedition.

2. HELIX (HADRA) LORIOLIANA, Crosse.

This is the largest South Australian species yet discovered. It is an elegant shell, with a somewhat effuse aperture, of a yellowish horn-colour, banded with orange-brown.

From the ravines of the western slopes of Flinders Range, near the head of Spencer's Gulf.

3. HELIX (HADRA) ANGASIANA, Pfr.

In form more globular than *H. lorioliana*, deeply umbilicated, and with the aperture smaller, and the outer lip thickened and reflexed. The style of colouring is very similar to the preceding.

Found under "salt-bushes" on the plains at Arrowie, near Lake Torrens.

4. HELIX (HADRA) CASSANDRA, Pfr.

A delicate pale-brown and whitish-banded species, somewhat depressed in form, with the outer lip but slightly reflexed.

From bushy patches amongst the sandstone-cliffs on the banks of the Lower Murray River.

5. HELIX (HADRA) LINCOLNIENSIS, Pfr.

A rich-purplish, vinous-brown, somewhat depressed species, with the outer lip rather thin.

From under logs and bushes at Port Lincoln.

6. HELIX (HADRA) EVANDALEANA, Pfr.

An interesting species, with the whorls keeled at the periphery, of a rugose character, with a large umbilicus, and of a peculiar snuff-brown colour.

Found under dead logs at Evandale.

7. HELIX (HADRA) STUTCHBURYI, Pfr.

A somewhat thin, pale straw-coloured shell with a faint band; intermediate between *H. cassandra* and *H. gilberti* of New South Wales.

From the scrubs near Port Elliott.

8. HELIX (HADRA) PATRUELIS, Ad. & Ang., n. s.

H. testa depresso-conoidali, late et profunde umbilicata, rufa, fascia pallida transversa prope suturas ornata; spira valde depressa; anfractibus 5, convexiusculis, rugoso-granulosis, ad suturas corrugatis, anfractu ultimo ad peripheriam subangu-

lato; apertura lunato-ovata, margine columellari subreflexo umbilicum partim tegente.

Long. $5\frac{1}{2}$ lin., lat. 10 lin.

Hab. Port Lincoln, under dead logs (*Coll. Angas.*).

This handsome species is of a rich rufous brown, adorned with a pale band near the sutures. It seems to combine the characters of *H. lincolnenensis* and *H. cassandra*.

9. *HELIX (HADRA) FLINDERSI*, Ad. & Ang., n. s.

H. testa globoso-conoidali, tenuicula, mediocriter umbilicata, fusco-albida; anfractibus $4\frac{1}{2}$, convexiusculis, rugoso-strigilatis, ultimo magno inflato; apertura lunato-ovata, labio callo umbilicum partim tegente.

Long. 7 lin., lat. 7 lin.

Hab. Willowie, near western slopes of Flinders Range (*Coll. Angas.*).

This remarkably compact and globose species, of which only two specimens have hitherto been found, is characterized by the rugose striæ of the whorls and by its conoidal spire.

10. *HELIX (ANGASELLA) CYRTOPLEURA*, Pfr.

This strongly plicate, flattened, and widely umbilicated species belongs to a group of which it appears to be the only hitherto known representative. It somewhat resembles *H. plicaria* of Teneriffe in the character of its sculpture; but the outer lip is narrower and less expanded, and the umbilicus deep and wide.

Mr. Arthur Adams has separated this species as belonging to a peculiar group, for which he has proposed the name of *Angasella*.

From the plains near Lake Torrens.

11. *HELIX (CHAROPA) JULIODEA*, Forbes.

This beautiful radiately sculptured and delicate species occurs also in New South Wales, where it is pretty generally distributed.

Found at Rapid Bay, near Cape Jervis, in the ravines of the high hills bordering on the coast.

12. *HELIX (CHAROPA) MURRAYANA*, Pfr.

A small, flattened, finely plicate species, with a large umbilicus.

From under stones and amongst grass in the ledges of the sand-stone-cliffs of the Murray.

13. *HELIX (THALASSIA) RUSTICA*, Pfr.

A small, vitreous, reddish horn-coloured species, with a very small deep umbilicus. This species is also found in other parts of Australia.

From Rapid Bay, in the same localities as *H. juliodaea*.

14. *HELIX (THALASSIA) SUBANGULATA*, Ad. & Ang., n. s.

H. testa orbiculato-conoidali, pertenui, pellucida, vitrea, pallide

straminea, anguste umbilicata; anfractibus planis, tenuissime concentrica striatis, ultimo ad peripheriam subangulato; apertura perobliqua, lunato-ovali, latiore quam longa; labio acuto, breviter reflexo, umbilicum vix tegente.

Long. $\frac{1}{2}$ lin., lat. 3 lin.

Hab. South Australia, under stones and logs (*Coll. Angas.*).

A small species, somewhat resembling *H. rustica*, Pfr., but with the last whorl subangular at the periphery, and with a narrow umbilicus, which is nearly concealed by a short reflexion of the columellar margin.

15. BULIMUS (LIPARUS) ANGASIANUS, Pfr.

This fine *Bulimus*, which is rather more than an inch in height, having the body-whorls handsomely banded with white and brown, belongs to the Western Australian group *Liparus*, which is represented there by *B. melo*, *B. trilineatus*, *B. physoides*, and others.

My specimens were obtained from an open heath at Port Lincoln. I possess two dead specimens of *B. physoides* from Western Australia, and one of *B. meridionalis*, an East African species, which I obtained on the sea-beach near Port Adelaide. These must probably have been carried thither by the strong westerly winds and currents which prevail during the winter months.

16. BULIMINUS (CHONDRULA) ADELAIDÆ, Ad. & Ang., n. s.

B. testa turrata, pupiformi, in medio dilatata, umbilicata, albodbadia; anfractibus 6, convexis, longitudinaliter strigillatis; apertura rotundato-ovata; peritremate interrupto, albo, late reflexo; labio superne callo tuberculiformi albo munito.

Long. 3 lin., lat. 1 lin.

Hab. South Australia, rocky places (*Coll. Angas.*).

A small pupa-like species having all the characters of *Chondrula*, which it appears to represent in South Australia, where it is generally distributed. In Western Australia there is an allied species, which we have elsewhere described as *Chondrula lepidula*.

17. VERTIGO AUSTRALIS, Ad. & Ang., n. s.

V. testa sinistrorsa, apice obtuso, rimato-umbilicata, pallide fusca; anfractibus 7, convexis, oblique valde striatis; apertura semiovata, peritremate incrassato et late dilatato, plica unica parietali et plica unica columellari munita.

Long. 2 lin., lat. $\frac{3}{4}$ lin.

Hab. Rapid Bay, in crevices of rocks (*Coll. Angas.*).

A cylindrical and, for the genus, a large species, with the aperture furnished with but two plicæ.

18. SUCCINEA STRIGATA, Pfr.

A strongly plicate species with a papillary spire; pretty generally distributed throughout the country, in barren sandstone places.

19. *SUCCINEA ARBOREA*, Ad. & Ang., n. s.

S. testa oblongo-ovata, spira quam apertura breviore, apice papilloso, alba, aureo-cornea, pellucida; anfractibus 3, valde convexis, longitudinaliter strigosis; apertura oblongo-ovata, labio callo tenui instructo; labro arcuato, simplici.

Long. 4 lin., lat. 2 lin.

Hab. Burnside; hills near Adelaide; beneath bark of gum-trees (*Coll. Angas.*).

The habits of this species differ from those of *S. strigata*, Pfr., which are strictly terrestrial, the animals making their appearance after rain, and spreading over the hills in considerable numbers. Our species, on the contrary, shelters itself beneath the loose bark of the *Eucalypti*.

20. *BLANFORDIA STRIATULA*, Menke.

This species of *Blanfordia* is the only example of an operculate land-shell that I have met with in South Australia. The same species is found in Tasmania.

From the hills near Adelaide.

4. DESCRIPTIONS OF FIFTEEN NEW SPECIES OF LAND-SHELLS,
FROM THE COLLECTION OF H. CUMING, ESQ. BY DR.
LOUIS PFEIFFER.

1. *HELIX LABUANENSIS*, Pfr. *T. imperforata, conoideo-depressa, tenuis, carinata, striatula et liris minutis elevatis prope suturam distinctioribus cincta, cornea; spira concaviusculo-conoidea, apice acutiuscula; sutura marginata; anfr. 7, subplani, lente accrescentes, ultimus non descendens, acutissime carinatus, basi parum convexus; apertura obliqua, depresso securiformis; perist. simplex, rectum, margine supero brevi, antrorsum arcuato, basali a carina recedente, leviter arcuato, ad insertionem subcalloso.*

Diam. maj. $16\frac{1}{2}$, min. 15, alt. 6 mill.

Hab. In insula Labuan (Mr. Hugh Low).

2. *HELIX HUGONIS*, Pfr. (182 a). *T. sinistrorsa, clause perforata, turbinata, solida, undique conferte et subargute granulato-striata, superne fuscula; spira conoidea, vertice obtusulo; anfr. 8, lente accrescentes, convexiusculi, supra suturam flavescentes, ultimus compresse carinatus, infra carinam inflatus, castaneus; apertura obliqua, irregulariter angulato-lunaris, intus margaritacea; perist. subsimplex, margine supero brevi, basali perarcuato, versus perforationem subincrassato et leviter dilatato.*

Diam. maj. 38, min. 35, alt. 21–22 mill.

Hab. In insula Labuan (Mr. H. Low).

3. *HELIX CEROCONUS*, Pfr. (194 a). *T. subperforata, conica, temniuscula, striatula, cerea; spira convexiusculo-conica, vertice obtusulo; sutura filomarginata; anfr. 6–6 $\frac{1}{2}$, convexiusculi, lente*

accrescentes, ultimus convexior, non descendens, peripheria subacute carinatus; apertura vix obliqua, angulato-lunaris; perist. simplex, rectum, marginibus distantibus, supero brevi, basali leviter arcuato, versus insertionem sensim dilatato, reflexiusculo.

Diam. maj. $8\frac{1}{2}$, min. 8, alt. $5\frac{1}{2}$ mill.

Hab. In insula Labuan (Mr. H. Low).

4. **HELIX JUCUNDA**, Pfr. (263 a). *T. subclause perforata, conoideo-depressa, tenuis, sub lente conferte striata, nitida, fusco-cornea; spira breviter conoideo-elevata, vertice subtili; anfr. $6\frac{1}{2}$, convexiusculi, lente accrescentes, ultimus non descendens, peripheria rotundatus, basi medio impressus; apertura vix obliqua, irregulariter lunaris, intus submargaritacea; perist. simplex, rectum, marginibus distantibus, dextro regulariter arcuato, columellari declivi, parum arcuato, ad insertionem breviter reflexo.*

Diam. maj. 17, min. $15\frac{1}{2}$, alt. 9 mill.

Hab. In insula Labuan (Mr. H. Low).

5. **HELIX DURA**, Pfr. (387 a). *T. perforata, depressa, solida, carinata, superne subconferte plicato-striata, nitidula, fusco-isabellina; spira brevissime conoidea, vertice minuto obtusulo, sutura linearis, anguste marginata; anfr. $5\frac{1}{2}$, vix convexiusculi, lente accrescentes, ultimus non descendens, peripheria compresse et acute carinatus, subtus modice convexus, leviter radiato-striatus; apertura obliqua, depresso subrhomboido-lunaris; perist. rectum, margine supero tenui, basali a carina subito recedente, quasi rostram formante, tum usque ad perforationem leviter incrassato.*

Diam. maj. 34, min. 30, alt. 11 mill.

Hab. Waigou Island (Mr. Wallace).

6. **HELIX NIGROFASCIATA**, Pfr. (1655 a). *T. anguste umbilicata, globoso-trochiformis, solidula, oblique regulariter striata, lineisque impressis antrorum descendenteribus dense decussata, lutea, fasciis 2 latis nigris et interdum cinnamomea infra illas cincta; spira turbinata, vertice acutiusculo; anfr. 4, convexi, ultimus inflatus, antice vix descendens, subtus spiraliter leviter striatus; apertura obliqua, rotundato-lunaris, intus alba, nigro fasciata; perist. album, marginibus convergentibus, dextro anguste expanso et reflexiusculo, columellari late reflexo, supra umbilicum fornicatum dilatato.*

Diam. maj. 19, min. 17, alt. 13 mill.

Hab. Admiralty Islands.

7. **HELIX LATIZONA**, Pfr. (1912 a). *T. mediocriter umbilicata, depressa, tenuiuscula, striatula, vix nitidula, fusca, zona latiuscula alba ad suturam notata; spira subplana; anfr. $4\frac{1}{2}$, superi vix convexiusculi, ultimus rotundatus, superne antice subsulcatus, deflexus, subtus constrictus; apertura obliqua, rotundato-ovalis; perist. undique sublate expansum, marginibus convergentibus, columellari tuberculo oblongo-nodiformi intus munito.*

Diam. maj. $26\frac{1}{2}$, min. 21, alt. 11 mill.

Hab. In insula Ceram (Mr. Wallace).

8. **BULIMUS DOHRNI**, Pfr. (133 a). *T. imperforata, oblongo-conica, solida, lavigata, sulphurea; spira elongata, subregulariter conica, varicibus nigro-castaneis 1-2 notata, apice obtusulo; anfr. 7, vix convexiusculi, ultimus $\frac{1}{3}$ longitudinis paulo superans, basi rotundatus, infra medium fascia lata livida vel virescente notatus; apertura parum obliqua, parvula, subrhomboidalis; columella brevis, superne subplicata; perist. vix expansum, crassum, lacteum, striga castanea cinctum, marginibus callo crasso albo intrante junctis.*

Long. 45, diam. 21 mill. Ap. 16 mill. longa, $9\frac{1}{2}$ lata.

Hab. Cochin-China.

9. **BULIMUS RECEDENS**, Pfr. (252 a). *T. compresse umbilicata, ovato-subfusiformis, tenuis, lavigata, pallide flava, strigis undulatis subinterruptis fuscis picta; spira subexacte conica, apice acuta; anfr. 6, planiusculi, ultimus spiram superans, basi recedens, vix attenuatus; columella inflata, torta; apertura vix obliqua, oblongo-ovalis, superne angulata; perist. tenue, albidum, margine dextro latiuscule expanso, columellari reflexo, superne dilatato.*

Long. 27, diam. 12 mill.

Hab. Mozobamba.

10. **PUPA SOLUTA**, Pfr. *T. profunde rimata, elongato-conica, tenuis, levissime striatula, pellucida, fusco-cornea; spira ovato-conica, vertice acutiusculo; anfr. 9, convexiusculi, ultimus antice solitus, horizontaliter productus, basi compressus; apertura basi axin excedens, truncato-ovalis, lamellis 6 elongatis fere clausa, 1 parietali et suprema palatali validioribus, marginem attingentibus, secunda palatali, 1 basali et 2 columellaribus profundioribus; perist. continuum, tenue, breviter expansum, margine supero libero, strictiusculo.*

Long. 8, diam. anfr. penultimi 3 mill.

Locality unknown; perhaps of a new genus, allied to *Tomigeres*.

11. **SUCCINEA COCHINCHINENSIS**, Pfr. (14 a). *T. depresse ovata, tenuis, ruguloso-striata, pellucida, albido-cornea; spira parvula, subpapillata; anfr. $2\frac{1}{2}$, ultimus magnus, obliquus, basi subcompressus; columella filaris, callosa, subtorta; apertura obliqua, angulato-ovalis, intus submargaritacea, antice non incumbens; perist. simplex, margine dextro subflexuoso.*

Diam. maj. 11, min. $6\frac{2}{3}$, alt. $4\frac{1}{2}$ mill. Apertura 10 mill. longa.

Hab. Cochin-China.

12. **PTEROXYCLOS LABUANENSIS**, Pfr. (1 a). *T. late umbilicata, subdiscoidea, solida, subtilissime striatula, sordide flava unicolor vel in anfract. superioribus castaneo distanter flammulata; spira vix elevata, vertice corneo submucronato; anfr. $4\frac{1}{2}$, convexiusculi, rapide accrescentes, ultimus subdepresso rotundatus, non descendens; apertura fere diagonalis, circularis; perist. duplex; internum porrectum, superne leviter incisum, externum latere sinistro*

reflexum, dextro sublate patens, superne cucullatim dilatatum et subdeflexum. Operc. planiusculum, calcareum, marginibus anfractuum infundibuliformiter elevatis.

Diam. maj. 18, min. 14, alt. 5 mill.

Hab. In insula Labuan (Mr. H. Low).

13. PTEROCYCLOS LOWIANUS, Pfr. (1 b). *T. late umbilicata, subdiscoidea, tenuiuscula, subtiliter striatula, sericina, fulva, flammis saturate castaneis amæne picta; spira planiuscula, vertice submucronato; anfr. 4½, convexi, regulariter accrescentes, ultimus teres, antice paululum descendens; apertura diagonalis, circularis; perist. duplex; internum brevissime porrectum, juxta anfr. contiguum vix sinuatum; externum latere sinistro angustissimum, dextro breviter patens, superne dilatatum et protractum, vix concavum. Operc. præcedentis.*

Diam. maj. 15½, min. 12½, alt. 5½ mill.

Hab. In insula Labuan (Mr. H. Low).

14. PUPINA MERIDIONALIS, Pfr. (4 a). *T. oblonga, tenuiuscula, levissime striatula, subpellucida, succineo-cornea; spira sensim in conum acutiusculum attenuata; sutura levis, simplex; anfr. 7, summi convexiusculi, sequentes planiores, penultimus longus, ultimus antice subascendens, basi axin excedens; apertura obliqua, circularis, bicanaliculata; callus parietalis arcuatus, latere dextro in linguam triangularem, sinistro in linguam latam transverse truncatam abiens; perist. subincrassatum, breviter expansum, cum lingua sinistra directione parallela recedens.*

Long. 13, diam. 6 mill.

Hab. North Australia.

15. PUPINA PLANILABRIS, Pfr. (4 b). *T. subrimata, oblongo-conica, tenuiuscula, sub lente striatula, subsericea, carneo-fuscula; spira conica, apice acutiuscula; sutura simplex; anfr. 7, convexiusculi, penultimus longus, latere aperturæ subplanulatus, ultimus brevis, descendens; apertura subverticalis, circularis, lineariter bicanaliculata; callus parietalis planus, subsolutus, latere dextro breviter ligulatus, sinistro infra medium oblique resectus; perist. plane expansum, utrinque catus cum linguis junctum et infra rimam umbilicalem cristulam e canali punctiformi exente formans.*

Long. 12½, diam. 5½ mill.

Hab. North Australia.

5. DESCRIPTIONS OF TEN NEW SPECIES OF LAND-SHELLS, FROM THE COLLECTION OF GEORGE FRENCH ANGAS, ESQ. BY DR. LOUIS PFEIFFER.

1. HELIX INCLINATA, Pfr. (387 b). *T. subclause perforata, conoideo-depressa, solida, carinata, superne conferte rugoso-striata,*

nitidula, pallide fusca; spira regulariter conoidea, vertice minuto obtusulo; sutura marginata, carina sub prominula; anfr. 6, vix convexiusculi, lente accrescentes, ultimus non descendens, acute carinatus, basi convexus, substriatus, nitidior, medio pallidior, impressus; apertura fere diagonalis, angulato-lunaris, intus margaritacea; perist. rectum, margine supero simplici, basali regulariter arcuato, versus perforationem subincrassato, eam lamina trianguli claudente.

Diam. maj. 30, min. 26 $\frac{1}{2}$, alt. 14 mill.

Hab. Louisiade Group, New Caledonia. *Guinea*

2. **HELIX LINCOLNIENSIS**, Pfr. (564 a). *T. umbilicata, subconoido-depressa, tenuis, superne conferte rugoso-striata et subtilissime granulata, pellucida, unicolor castanea; spira subconoideo-elevata, vertice obtusulo; anfr. 5, convexiusculi, ultimus subdepresso-rotundatus, antice non descendens, subitus circa umbilicum angustum leviter radiato-striatus; apertura obliqua, rotundato-lunaris; perist. simplex, rectum, marginibus convergentibus, columellari superne in laminam reflexam fuscam dilatato.*

Diam. maj. 22, min. 19, alt. 12 mill.

Hab. Port Lincoln.

3. **HELIX MURRAYANA**, Pfr. (654 a). *T. umbilicata, depressa, tenuiuscula, confertissime filoso-plicata, vix nitidula, fusca; spira plana; anfr. 5, convexiusculi, regulariter accrescentes, ultimus rotundatus, non descendens; umbilicus $\frac{1}{4}$ diametri subaequans; apertura parum obliqua, rotundato-lunaris; perist. simplex, rectum, marginibus conniventibus, columellari juxta umbilicum vix dilatato.*

Diam. maj. 7, min. 6, alt. 3 mill.

Hab. Murray Cliffs, South Australia.

4. **HELIX CASSANDRA**, Pfr. (1080 b). *T. mediocriter umbilicata, globoso-depressa, tenuis, striatula et minutissime granulata, parum nitens, superne pallide isabellina, fasciis nonnullis saturationibus obsolete notata, subitus albida; spira breviter conoideo-elevata, vertice minuto; anfr. 5, regulariter accrescentes, superi vix convexiusculi, ultimus inflatus, antice vix deflexus; apertura parum obliqua, rotundato-lunaris, intus submargaritacea; perist. simplex, tenue, margine dextra recto, basali reflexiusculo, juxta umbilicum in laminam triangularem fornicatam dilatato.*

Diam. maj. 26, min. 22, alt. 15 mill.

Hab. Murray Cliffs, South Australia.

5. **HELIX ZENOPIA**, Pfr. (1131 a). *T. sublate umbilicata, conoideo-lenticularis, solida, superne ruditer et conferte plicata, acute carinata, rufa; spira breviter conoidea, apice obtusa; sutura submarginata; anfr. 5 $\frac{1}{2}$, convexiusculi, lente accrescentes, ultimus non descendens, supra carinam convexior, basi leviter radiato-striatus, sensim in umbilicum transiens; apertura perobliqua,*

subrhombeo-lunaris; perist. rectum, marginibus subconvergentibus, supero antrorum arcuato, basali incrassata.

Diam. maj. 22, min. 20, alt. 9 mill.

Hab. New Georgia.

6. **HELIX EVANDALEANA**, Pfr. (1167 b). *T. subanguste umbilicata, deppressa, solidula, carinata, superne rugoso-striata et granulata, pilis brevibus obsita, subpellucida, fusca; spira parum elevata, vertice obtuso; sutura profunda, carina magis minusve prominente marginata; anfr. 4, convexi, ultimus supra medium carina uniformi et interdum angulo secundo obsoletiore circumdatus, basi levius striatus, plano-convexus; apertura obliqua, late lunaris; perist. simplex, marginibus vix convergentibus, dextra recto, basali reflexusculo, juxta umbilicum subdilatato.*

Diam. maj. $17\frac{1}{2}$, min. 15, alt. 9 mill.

Hab. Evandale, South Australia.

7. **HELIX PERINFLATA**, Pfr. (1601 a). *T. umbilicata, globosa, solida, striis incrementi rugosis et lineis impressis antrorum descendenteribus decussata, isabellino-albida; spira convexo-conoidea, apice obtusa; anfr. $4\frac{1}{2}$, ultimus magnus, ventrosus, subtus perinfatus, striis spiralibus obsolete sculptus, antice deflexus; apertura diagonalis, lunari-rotundata; perist. breviter expansum, margine columellari supra umbilicum angustum fornicalim dilatato.*

Diam. maj. $23\frac{1}{2}$, min. 20, alt. 20 mill.

Hab. McDonnell Ranges, Central Australia; found by Mr. Waterhouse on Stuart's Expedition.

8. **HELIX CARCHARIAS**, Pfr. (1606 a). *T. subobtecte perforata, conoideo-globosa, solidula, sub lente minutissime granulata, carnea; spira conoidea, vertice laevigato obtusulo; anfr. 5, convexiusculi, superi irregulariter tuberculato-plicati, ultimus ventrosus, superne levius plicatus, subtus radiato-striatus, albido, antice profunde deflexus; apertura diagonalis, subcircularis; perist. simplex, tenui, anguste expansum, marginibus approximatis, columellari fornicalim supra umbilicum late reflexo.*

Diam. maj. $17-19\frac{1}{2}$, min. $13\frac{1}{2}-16$, alt. $10\frac{1}{2}-14$ mill.

Hab. Sharks' Bay, N. W. Australia.

9. **HELIX CURTISIANA**, Pfr. (1681 a). *T. anguste umbilicata, conoideo-semiglobosa, solida, striata, castanea; spira conoideo-converxa, superne albida, vertice obtusulo; sutura albo filosa; anfr. 6, lente accrescentes, ultimus magnus, convexus, supra medium subangulatus, basi planiusculus, antice descndens; apertura fere diagonalis, rotundato-lunaris; perist. vix incrassatum, anguste expansum, margine columellari superne triangulatim dilatato.*

Diam. maj. 29, min. 25, alt. 17 mill.

Hab. Port Curtis, N. E. Australia.

10. **BULIMUS ANGASIANUS**, Pfr. (773 a). *T. imperforata, ovato-conica, tenuis, plicis longitudinalibus confertis, sulcis spiralibus*

interruptis sculpta, castanea, fasciis 2 albis ornata; spira convexo-conica, apice obtusulo alba; anfr. 5, modice convexi, ultimus spiram superans, infra medium leviter striatus, basi rotundatus; apertura parum obliqua, angulato-ovalis, intus margaritacea, albo fasciata; perist. simplex, rectum, margine dextro antrorum subcurvato, columellari albo-callosa, arcuato, intrante.

Long. $25\frac{1}{2}$, diam. 14 mill.

Hab. Port Lincoln, South Australia.

6. ON THE BREEDING OF THE GREEN SANDPIPER (*HELODROMAS OCHROPUIS*). BY ALFRED NEWTON, M.A., F.L.S., F.Z.S.

Ornithologists are aware of the very different positions often chosen for their nests by birds of the same species. Thus Eagles may be found sometimes building their eyries upon trees, at others on cliffs, and again sometimes absolutely upon the flat ground. The same may be said of some species of Falcons and of some Herons. Certain Crows also and the Stock-Dove (*Columba oenas*) exhibit a like disparity of habit. Even among the members of the Gallinaceous order a similar diversity is occasionally, though rarely, to be observed. I have been told, on authority I cannot question, of a common Pheasant (*Phasianus colchicus*) and of a Capercally (*Tetrao urogallus*) each choosing a nest in a tree wherein to lay its eggs. Instances of the common Wild Duck (*Anas boschas*) breeding in hollow stumps of trees are very frequent; and with the Ducks of the genus *Aix* this seems to be the normal mode of nidification. But, excepting in the last case, this peculiarity in the selection of a site for the nest seems to result from the particular fancy (or instinct, it may be) of the individual; and in that exceptional case the general habits of the birds are so essentially arboreal that we need not wonder at the fact of their using trees for their nurseries as well as for their usual places of lodging. The only instances parallel to the one I am going to adduce are, so far as I can call to mind, those of the Golden-eye (*Clangula glaucion*), the Goosander (*Mergus serrator*), and the Smew (*Mergus albellus*). Each of these three birds departs from the manner of nidification which obtains among its brethren, just as I shall show that the Green Sandpiper (*Helodromas ochropus**) does.

Though I do not pretend to lay before you any novel facts this evening, yet it will be, I think, admitted that hitherto we have had in England but little positive information on the mode of breeding of the Green Sandpiper; such as it is, however, I will proceed to notice it. First, I must say that I think the story of the nest of this bird "by the side of a clay-pit" in Norfolk, as told in Mr. Yarrell's 'British Birds' (vol. ii. p. 529) and in Mr. Lubbock's

* The osteology of the *Tringa ochropus*, Linn., presents such a marked deviation from that of the other *Tringa* which I have examined, that I do not hesitate in this case to follow Dr. Kaup in considering it the type of a distinct genus.